

APPENDIX F
DETAILED COST ESTIMATES AND ASSUMPTIONS

ALTERNATIVE 2 INSTITUTIONAL CONTROLS

The Institutional Controls Alternative cost estimate used in this scenario included the public awareness components described in the Institutional Analysis Plan. These components are summarized below along with assumptions used in preparing the cost estimate.

1. Printed media. This component includes the production and distribution of 10,000 original, professional quality brochures and 50 information packages. Updating and redistributing these materials on an annual basis is included in the annual maintenance cost.
2. Ad-hoc committee. This component includes the miscellaneous administrative expenses related to an ad-hoc committee that would be comprised of influential members of the local community and USACE representatives. This committee would be responsible for facilitating implementation of the institutional control alternative and gauging the level of public awareness and support for the controls.
3. Classroom education. This component includes the preparation and instruction of ordnance and ordnance safety classes for public officials, various groups that play some role at JPG, and all primary and secondary school children in the area. The cost of teaching materials is included in the cost estimate.
4. Visual Media. This component includes the production, copying and distribution of two videotapes for various uses including broadcast on local television stations. Updating and redistributing these tapes on an annual basis is included in the annual maintenance cost.
5. Exhibits/Displays. This component includes preparation of one permanent and one mobile display to educate the public on the potential risks associated with ordnance at the site. Updating these displays on an annual basis is included in the annual maintenance cost.
6. Website. The current website will be updated with site-specific information.

**ALTERNATIVE 2
INSTITUTIONAL CONTROLS
(continued)**

Cost Summary	
Facility Support	\$2,000
USAESCH Project Management Support	\$6,000
Printed Media	\$36,000
Ad hoc committee	\$2,000
Classroom Education	\$10,000
Visual Media	\$101,000
Exhibits/Displays	\$10,000
Website	\$2,000
Annual Maintenance Costs (five years)	\$60,000
TOTAL	\$229,000

ALTERNATIVE 3 SURFACE CLEARANCE OF OE

A land surveyor would delineate columns 200 feet wide running parallel to and westward from Tokyo Road and rows 200 feet wide running parallel to and southward from Woodfill Road.

Area preparation/brush cutting crews would remove brush as necessary to conduct the geophysical survey and in compliance with ARARs. Vegetation has been assumed to have a medium density or more, especially in the grids immediately adjacent to the roads. Area preparation teams will pile brush from adjoining columns or rows on cleared columns or rows (i.e., column 1 grids west from Tokyo Road would be cleared and government QA completed to allow brush from column 2 grids to be placed on cleared column 1 grids).

The geophysical survey and subsurface clearance activities would proceed in the rows and columns, beginning from the roads and moving inward. UXO personnel would clear the first two consecutive rows and columns. If OE items are not found in this initial area, the clearance operation will be considered complete. If, however, OE items are found in this area, the geophysical survey and subsurface clearance operations will continue to the next column and/or row. This incremental procedure will continue until two consecutive rows and two consecutive columns have been cleared without recovering any OE items. As long as at least one OE item is found in a row or a column, the response action will continue for at least two more rows or columns. This cost estimate assumes that the response action will include the entire 312 acre site.

Clearance would include surface items and items found within the first six inches below the ground surface.

Quick Facts:

Area of Clearance:	312 acres
Geophysical Survey Equipment:	Schonstedt GA-52B or equivalent
# Anomalies	25-30 per 200 foot grid
# UXO items	<1 per 3 200-foot grids, <100 per the entire 312 acre site
# UXO, UXO-related, non-UXO metallic items:	<6000 per 312 acres
Production estimate:	3.14 acres/day
Work Days	100 (4 day work week, 10 hours/day)

**ALTERNATIVE 3
SURFACE CLEARANCE OF OE
(continued)**

Cost Summary	
Facility Support	\$10,000
USAESCH Safety/Project Management Support	\$30,000
Site Visit	\$14,433
Work Plan	\$36,412
Mobilization	\$47,507
Project Management	\$424,875
Land Survey Control/Grid Establishment	\$102,698
Area Preparation/Brush Cutting	\$243,747
Surface Clearance/Geophysical Survey	\$263,381
Subsurface Clearance	\$101,444
OE Disposition	\$52,849
AEDA Certification/Disposition	\$19,111
Demobilization	\$34,800
Final Report	\$32,673
TOTAL	\$1,413,930

ALTERNATIVE 4

SURFACE AND SUBSURFACE CLEARANCE OF OE TO DEPTH

This approach is the same as described for Alternative 3 with regards to the land surveyor, brush clearance operations, and the incremental approach to the clearance operations. The assumed area encompasses the entire 312 acres.

Clearance includes items on the surface and intrusive investigations at each anomaly location until the anomaly is identified or until a maximum depth of four feet. If the anomaly is not identified within the first four feet and the geophysical instrument continues to give a signal, USAESCH would be contacted to determine whether to investigate deeper than four feet. The current investigation, as well as the adjacent airfield investigation, showed a vertical profile that indicates that the typical depth of OE penetration would be less than two feet. During the current project, no intact UXO items were found deeper than one foot and similar data was found on the adjoining airfield project. Therefore, it is not expected that many locations will require excavation to the full four feet and even fewer locations, if any, would require consideration of excavation beyond four feet.

Quick Facts:

Area of Clearance:	312 acres
Geophysical Survey Equipment:	Foerster Ferex or equivalent
# Anomalies	25-30 per 200 foot grid
# UXO items	<1 per 3 200-foot grids, <100 per 312 acres
# UXO, UXO-related, non-UXO metallic items:	<6000 per 312 acres
Production estimate:	3.14 acres/day
Work Days	150 (4 day work week, 10 hours/day)

ALTERNATIVE 4
SURFACE AND SUBSURFACE CLEARANCE OF OE TO DEPTH
(continued)

Cost Summary	
Facility Support	\$10,000
USAESCH Safety/Project Management Support	\$30,000
Site Visit	\$14,433
Work Plan	\$42,638
Mobilization	\$47,507
Project Management ^{\1}	\$462,450
Land Survey Control/Grid Establishment	\$119,165
Area Preparation/Brush Cutting	\$243,747
Surface Clearance/Geophysical Survey ^{\1}	\$346,943
Subsurface Clearance ^{\1}	\$295,462
OE Disposition ^{\1}	\$60,465
AEDA Certification/Disposition	\$19,111
Demobilization	\$34,800
Final Report	\$36,214
TOTAL	\$1,762,935

^{\1} Higher costs reflect replacement of the Schonstedt magnetometer with the Ferex magnetometer due to the greater search depth and the associated increased time required.